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ABSTRACT

This paper describes conceptual development and empirical research on student motivation to learn. It defines student motivation to learn as both a generalized trait and a situation specific state, and distinguishes it from related but different motivational conceptions that have less direct bearing on issues surrounding motivating student learning in classroom situations. It then reviews research indicating that little evidence of motivation to learn is observed in most classrooms and that this may be because teachers have not been made aware of the need to stimulate such motivation to learn through systematic socializing of their students, nor have they been armed with strategies for doing so. Finally, it describes the rationale and design of an ongoing experiment on this topic and presents the 13 strategies for stimulating student motivation to learn and 11 strategies for capitalizing on students' existing intrinsic motivation that are being recommended to teachers and that form the treatment in this experiment. (Author)

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SOCIALIZING STUDENT MOTIVATION TO LEARN

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Abstract

This paper describes conceptual development and empirical research on student motivation to learn. It defines student motivation to learn as both a generalized trait and a situation specific state and distinguishes it from related but different motivational conceptions that have less direct bearing on issues surrounding motivating student learning in classroom situations. It then reviews research indicating that little evidence of motivation to learn is observed in most classrooms and that this may be because teachers have not been made aware of the need to stimulate such motivation to learn through systematic socializing of their students nor have they been armed with strategies for doing so. Finally, it describes the rationale and design of an ongoing experiment on this topic and presents the 13 strategies for stimulating student motivation to learn and 11 strategies for capitalizing on students' existing intrinsic motivation that are being recommended to teachers and that form the treatment in this experiment.

SOCIALIZING STUDENT MOTIVATION TO LEARN[1]

Jere Brophy[2]

This paper focuses on a particular type of motivation that I call motivation to learn, especially as it applies to student attention to lessons and engagement in academic learning tasks in classrooms. It begins by defining motivation to learn and differentiating it from related concepts, summarizes related theory and research on the topic, and then describes an ongoing study in which teachers are being trained to implement principles for stimulating motivation to learn in their students.

Definition and Motivation to Learn

Motivation to learn can be construed both as a general trait and as a situation-specific state. As a general *trait*, motivation to learn refers to an enduring disposition to value learning as a worthwhile and satisfying activity and, thus, to strive for knowledge and mastery in learning situations. This trait is most characteristic of individuals who find learning intrinsically rewarding--who enjoy or take satisfaction in expanding their knowledge of information, increasing their understanding of concepts or processes, or mastering skills. Similar levels of effort and persistence in learning situations may also be seen, however, in individuals who are motivated by a sense of duty (If you are going to do a thing at all, do it right) or a desire to make the most of their time (If you are going to have to put in

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[1]This paper will appear as a chapter in M.L. Maehr and D.A. Kleiber (Eds.), Advances in motivation and achievement (Vol. 5). Greenwich, CT: JAI Press.

[2]Jere Brophy is coordinator of the Classroom Strategy Project and a professor in the Department of Teacher Education, Michigan State University. The author wishes to thank June Smith for her assistance in manuscript preparation.

the time on something anyway, you might as well do your best and get the most out of the experience).

In specific situations, *a state* of motivation to learn exists when task engagement is guided by the goal or intention of acquiring the knowledge or mastering the skill the task is designed to teach. In classrooms, students reveal motivation to learn when they try to master the information, concepts, or skills being taught as they attend to lessons, read text, or work on assignments. Whether or not they find a particular task interesting or enjoyable, students who are motivated and learn that task will try to get the intended benefits from it by striving to make sure that they understand and will remember what they are supposed to learn. In contrast, students who are not motivated to learn the task will minimize their investment in it and do only as much as they believe they need to do to meet performance standards that will ensure access to reward or avoidance of punishment.

Several implications of this definition of motivation to learn need to be pointed out. First, the present approach fits within general social learning theory and, in particular, within *expectancy x value theory* (Feather, 1982) which posits that people's effort expenditure on tasks is a product of (a) the value they place on doing the task or reaping the benefits that it offers and (b) the degree to which they expect to be able to succeed on the task if they apply themselves. This is the same general orientation to motivation shared by such approaches as those based on the concepts of achievement motivation (Dweck & Elliot, 1983), efficacy perceptions (Bandura, 1982; Bandura & Schunk, 1981), and causal attributions (Weiner, 1979). However, these formulations have been concerned mostly with the expectancy term of the expectancy x value formulation, whereas the present approach is focused on the *value* term (see Parsons & Goff, 1980 on this point). Thus, I am not as much concerned with

students' desire to achieve in the sense of competing with standards of excellence as I am concerned with their desire to learn content and master skills. Similarly, I am not concerned as much with their perceptions of efficacy (focused on the self) as with their perceptions of the content to be learned and their metacognitive awareness of their strategies for responding to the task. Finally, I am not concerned as much with students' attributions about the causes of success or failure as with their attributions about their reasons for participating in academic activities in the first place. The present value-focused approach complements the various expectancy-focused approaches based on such concepts as locus of control, sense of efficacy or competence, personal causation (origin vs. pawn) perceptions, or perceptions of covariation between effort and outcome.

A second implication is the distinction between learning and performance: *Learning* refers to the information processing, sense making, and comprehension or mastery advances that occur during the acquisition of knowledge or skill; *performance* refers to the demonstration of such knowledge or skill after it has been acquired. Many approaches to the study of relationships between motivation and behavior ignore this distinction or deal only with performance. Such approaches are inappropriate for studying student motivation to learn, however, because of the heavily cognitive nature of classroom learning. With a few exceptions such as penmanship or zoology dissection skills, school learning is primarily covert and conceptual rather than overt and behavioral. In speaking of motivation to learn, I refer primarily to the motivation underlying these covert processes that occur during learning rather than to the motivation driving performance (reproduction or application of previously acquired learning).

A third implication concerns the criteria to be used in operationalizing and measuring the concept of motivation to learn in classrooms. Much motivation research has taken place in free-choice or recreational settings where subjects could choose from a range of activities. Consequently, motivational measures in these situations tend to be based on time allocations (what activities the subjects choose to engage in and for how long). In classrooms, however, students usually are not free to choose how to allocate their time. Instead, they are expected to attend to lessons and work on assignments. Consequently, measures of student motivation to learn must reflect the *quality of student engagement in academic activities*. All students will attend to or work on the same required activities in a particular classroom, but students motivated to learn will attempt to get the intended academic benefits from those activities. To the extent that a choice is involved, it amounts to choosing to try to get the intended benefits from an imposed task, rather than choosing what to do in the first place.

Motives, Goals, and Strategies

Traditionally, psychologists have used motivational concepts to account for the initiation, direction, intensity, and persistence of behavior. *Motives* are hypothetical constructs intended to explain why people are doing what they are doing and can be distinguished from related constructs such as *goals* (the immediate objectives of particular sequences of behavior) and *strategies* (the methods the person is using to achieve the goal and thus satisfy or at least respond to the motive). Sometimes motives, goals, and strategies are easily distinguished from one another, as in the case of instrumental behaviors intended to satisfy biological needs: A person responding to hunger (motive) goes to a restaurant (strategy) to get food (goal). At other times, however, motives, goals, and strategies are not so

easily distinguished. This is especially true in conceptualizing the covert cognitive activities involved in learning content and thus in conceptualizing student motivation to learn as defined here.

This is most obvious when considering motivation to learn as a state that exists in some degree in a particular school learning situation (as opposed to considering it as a general trait that distinguishes individuals). The term "student motivation to learn" as it applies to a particular school learning situation may be more aptly described as a goal than as a motive; that is, all students who take a particular academic task seriously and attempt to get the intended knowledge or skill benefits from it could be described as "motivated to learn" the task, even though only some of these students might possess a generalized trait that could be called motivation to learn. (Other students might attempt to get the intended academic benefits from the task because they anticipate getting rewarded for doing so, because they anticipate needing the information or skills to prepare them for desired careers, etc.) Although stemming from different motives, the learning goals and associated strategies generated by these various students in response to the task would be identical for all practical purposes and thus could be described as a situational state of "motivation to learn." Readers who desire a more clear separation between motives and goals might wish to reserve the term "motivation to learn" for the motive and substitute a term such as "mastery orientation" (see Diener & Dweck, 1978) to refer to the learner's situational adoption of mastery of the content or skill as a goal.

A further consideration complicating discussion of motivation to learn is that it is difficult to maintain a clear separation between the motivational elements (motives, goals) and the cognitive, executive, or strategic elements involved in learning academic content (mathemagenic behaviors, information-processing skills, generative-learning strategies, comprehension-monitoring

and repair strategies, problem-solving heuristics, etc.). These are easy to separate conceptually, of course, but in practice, given the highly cognitive nature of intentional learning of semantically encoded, meaningful content, there is an extremely high correlation between the state of motivation to learn and the activation of cognitive and metacognitive strategies for accomplishing such learning. In fact, it is difficult to imagine how significant learning could occur without activation of these strategies and difficult to imagine how or why learners would activate such strategies in particular situations unless they were responding to a generalized trait of motivation to learn or at least had adopted mastery of the present task as a goal.

In discussing typical school learning situations, then, to refer to a state of student motivation to learn is to imply the presence not only of motivational elements (motives or goals), but also of learning and cognition elements (cognitive and metacognitive strategies). Furthermore, to refer to teachers' methods of stimulating student motivation to learn (whether in the context of developing it as a general trait or activating it as a situational state) is to imply not only methods of inducing students to adopt mastery of content or skills as a goal but also methods of inducing students to activate needed cognitive and metacognitive strategies (and if necessary, to teach them these strategies). Because the focus in this paper is on specific learning situations within the school setting, the term "student motivation to learn" will routinely imply student adoption of the goal of mastering the content or skills being taught (mastery orientation) and activation of the cognitive and metacognitive strategies needed to reach this goal. It will not necessarily imply that the student possesses motivation to learn as a highly developed generalized trait, however.

Socializing Student Motivation to Learn

Considered either as a general trait or a situational state, student motivation to learn is construed as an acquired competence developed through general experience but stimulated most directly through modeling, communication of expectations, and direct instruction or socialization by significant others (especially parents and teachers). I approach the topic primarily from an interest in identifying strategies that teachers can use to stimulate student motivation to learn in their classrooms. Most of what follows will refer to motivation to learn as a situational state, although it is assumed that teachers' strategies that are effective for stimulating student motivation to learn in particular situations, if implemented consistently, will also stimulate development of student motivation to learn as a generalized trait.

Related Theory and Research

Until quite recently, theory and research on motivation had concentrated on the expectancy term rather than the value term within the expectancy x value theory approach, had treated motivation as a predictor variable or correlate in individual difference studies rather than as a dependent variable in experiments designed to induce change, and had not taken into account the highly cognitive nature of academic learning and the other factors that must be considered when conceptualizing motivation in the classroom setting. Consequently, although there is a large body of theory and research on the general topic of motivation, only a small portion of it applies specifically to the subtopic of motivation to learn in the classroom.

Theoretical Concepts and Models

Several theorists concerned with intrinsic motivation (Condry & Chambers, 1978; Kruglanski, 1978; Lepper, 1983) have demonstrated that a complet

motivational analysis must address not only expectations and attributions concerning level of performance (Can I succeed on this task? Why did I achieve the level of success that I achieved?) but also attributions concerning the reasons why one is engaging in the task in the first place and expectations concerning goals and objectives (What am I trying to accomplish here, and what benefits can I expect to obtain from the experience?). These authors have shown that the quality of task engagement, and ultimately the amount or quality of achievement, is higher when people perceive themselves to be engaging in a task for their own reasons (intrinsic motivation) than when they perceive themselves to be engaging in the task to please an authority figure, obtain a reward, escape punishment, or respond to some other external pressure (extrinsic motivation).

Implications for teachers stemming from this line of theory and research include the suggestions that teachers allow students as many choices as possible, that they introduce tasks and give feedback in ways that maximize students' awareness of the potential value of the task for them and minimize their awareness that the teacher is exerting authority over them and requiring them to do the task (Lepper, 1983; Brophy, 1981), and that teachers identify task elements students find enjoyable and incorporate as many of these elements as possible into classroom activities (Lepper & Gilovich, 1982; Malone & Lepper, in press). These and other related ideas based on the notion of maximizing students' intrinsic motivation for classroom activities are useful as far as they go, but teachers' opportunities for implementing them in typical classroom situations are limited, because they must concentrate on seeing that their students master the prescribed curriculum. Thus, most classroom activities are required rather than optional and must be done whether the students enjoy them or not.

Jacquelynne Eccles (Parsons), in the process of studying girls' motivation and performance in mathematics classes, has made several more general contributions to the conceptualization of motivation in the classroom. Parsons and Goff (1980) have noted the need to consider the value that students place on activities in addition to considering their expectations for success at those activities, and Eccles and Wigfield (1985) have proposed a model suggesting that the value attached to engaging in a task will depend on the degree to which such engagement will fulfill needs, facilitate reaching goals, or affirm personal values. Underscoring the point made above that motivation to learn cannot be equated with intrinsic motivation, Eccles and Wigfield suggest that subjective task value (the value that a person places on engaging in a task) has three major components: attainment value (the importance of doing well on the task in order to affirm one's self-concept or fulfill achievement, power, or social needs), intrinsic or interest value (the enjoyment one gets from engaging in the task), and utility value (the role that engaging in a task may play in advancing one's career or reaching other short- or long-term goals).

Brophy (1983a) presented a model for conceptualizing student motivation that called for consideration of several qualitative aspects of such motivation in addition to its quantity. Distinctions were made between task-endogenous and task-exogenous sources of motivation for task engagement, between the subjective focus on task value and the subjective focus on performance outcome, and between the affect associated with task engagement and the cognitions generated in guiding and responding to that engagement. Brophy argued that optimal task engagement is associated with a relaxed learning orientation rather than an intense level of arousal, with a focus on the task at hand rather than on the self or on task-exogenous considerations,

and with metacognitive awareness of what the task requires and how one is responding to it rather than with a focus on affective reactions.

Similar conceptualizations of optimal motivation to learn have been advanced by Maehr (1984) in his concept of personal investment in a task, by Nicholls (1984) in his emphasis on task involvement (in contrast to ego involvement), and by Corno and Mandinach (1983) and Corno and Rohrkemper (1985) in their discussions of the concept of self-regulated learning. Similar conceptions of student motivation to learn also underlie the advice offered by Keller (1983) concerning methods of building student motivation into instructional design and the information and exercises included by McCombs (1984) in her motivational training program for college students.

Classroom Research on Student Motivation to Learn

The models offered in these recent theoretical writings agree in identifying the critical aspects of what is defined here as student motivation to learn, but despite this theoretical agreement and general recognition of the importance of the topic, there has not been much research on student motivation to learn in classroom settings. Furthermore, the data that do exist are not encouraging.

Anderson and her colleagues (Anderson, 1981, 1984; Anderson, Brubaker, Alleman-Brooks, & Duffy, 1984) observed first graders working on seatwork assignments and then interviewed them about what they had done, why they did it, and how they did it. Their data indicated that many students, especially low achievers, did not understand how to do their assignments. Yet, rather than ask the teacher or get help in some other way, these students were content to respond randomly or to rely on response sets that had nothing to do with the content they were supposed to be learning (using alternating or geometrical patterns for circling answers on multiple choice assignments; picking

one from a list of new words to fill in the blank in a sentence without reading the sentence itself).

The low achievers seemed to be more concerned about completing their assignments than about understanding the content. As one said to himself when he finished a worksheet, "I don't know what it means, but I did it." (Anderson et al., 1984, p. 20). High achievers completed most of their assignments successfully and showed less concern about getting finished on time, but even so, they seldom gave evidence of understanding the content-related purposes of the assignments. Answers to questions about the purpose of assignments tended to be vague generalities ("It's just our work" or "We learn to read"), without reference to the specific content supposedly being learned or the skills being practiced.

Analysis of the teachers' presentations of assignments to the students suggested that teacher failure to call attention to the purposes and meanings of these assignments was a major reason for the students' low quality of engagement in them. Most presentations included procedural directions or special hints ("Pay attention to the underlined words"), but only 5% explicitly described the purpose of the assignment in terms of the content being taught, and only 1.5% included explicit descriptions of the cognitive strategies to be used when doing the assignment.

Other investigators have reported similar findings. Rohrkemper and Bershon (1984) interviewed elementary students about what was on their minds when they worked on assignments. They found that of 49 students who gave codable responses, 2 were concerned only about finishing, 45 were concerned about getting correct answers, and only 2 mentioned trying to understand what was being taught. Corno and Mandinach (1983) and Blumenfeld, Hamilton,

Bossert, Wessels, and Meece (1983) have also expressed concern about the low quality of students' engagement in classroom tasks.

Doyle (1983) suggests that most students are preoccupied with maximizing their ability to predict, and if possible control, the relationship between their academic performance and the grade they will receive. In particular, he suggests that students will seek to avoid tasks involving ambiguity (about precisely what will be needed to earn high grades) or risk (high difficulty levels or strict grading standards) and thus will avoid asking questions or seeking to probe deeper into the content because they want to stick with safe, familiar routines.

Brophy, Rohrkemper, Rashid, & Goldberger (1983) observed reading and mathematics instruction in intermediate-grade classrooms to test predictions about the relationships between the nature of the expectations about tasks teachers established when introducing those tasks to their students and the levels of apparent task engagement (inferred from observation rather than measured directly through interviewing) displayed by the students once the tasks were begun. As expected, low levels of student engagement were observed on tasks that the teachers had introduced by communicating negative expectations (i.e., that the tasks would be boring or that the students would not enjoy them). However, task introductions in which teachers communicated positive expectations about the task were not associated with the highest levels of student engagement. Instead, student engagement was highest when the teachers launched directly into tasks without making introductory statements about them. More generally, the evidence for the effectiveness of teachers' task introductions for eliciting student task engagement was disappointing: Only 14 of a possible 52 relationships reached statistical significance, and 12 of these were negative relationships. Thus, most relationships indicated

lower student engagement when teachers made some introductory statement than when they did not.

Many of these negative relationships had been expected because they occurred for task introductions that threatened punishment for poor performance, reminded the students of accountability pressures, or created negative expectations about the task. However, negative relationships were also seen for task introductions expected to have positive effects on student motivation (teachers' projection of enthusiasm about the task or mention of the importance of the skills being taught for success in our society), as well as for task introductions expected to be perceived as neutral (challenging the students to set and strive to meet particular goals).

Later analyses of these data by Brophy and Kher (in press) suggested that the task introductions made by the teachers observed in this study probably did not have much impact on student motivation to learn because (a) statements likely to stimulate student motivation to learn did not occur often enough; (b) when they did occur, they were usually too short and sketchy to do much good; and (c) whatever good they might have done was probably negated by other statements likely to undermine motivation to learn.

Only about one-third of the teachers' task introductions included comments judged likely to have positive effects on student motivation, and most of these were brief general predictions that the student would enjoy the task or would do well on it. In about 100 hours of classroom observation, only nine task introductions were noted that included substantive information about motivation to learn as defined here:

> These are not elementary, high school, or college level words; these are living level words. You'll use them every day in life. If you plan to be a writer or enjoy reading, you will need these words.
>
> Remember: The essential thing is to do them correctly, not to be the first to finish.

I think you will like this book. Someone picked it out for me, and it's really good.

This is a really strange story. It's written in the first person, so that the person talking is the one who wrote the story about his experience. It has some pretty interesting words in it. They are on the board.

The stories in this book are more interesting than the ones in the earlier level books. They are more challenging because the stories and vocabulary are more difficult. Reading improves with practice, just like basketball. If you never shoot baskets except when you are in the game, you are not going to be very good. Same with reading. You can't do without it.

Answer the comprehension questions with complete sentences. All these stories are very interesting. You'll enjoy them.

You girls should like this story because it is a feminist story. You boys will enjoy yours too. Your story is especially interesting. I want you to be sure to read it. It's a mystery, and you'll enjoy it.

Percent is very important. Banks use it for interest loans, and so on. So it is important that you pay attention.

You're going to need to know fractions for math next year. You will need fractions in the world to come.

Notice how minimal and essentially barren most of these remarks are. They do not go into enough detail to be very meaningful or memorable for most students, and many of them have a perfunctory quality suggesting that the teacher was going through the motions without much enthusiasm or conviction. Furthermore, whatever positive effect these remarks may have had was probably undercut by the fact that (a) most of the teachers' remarks to the students concerned procedural demands and evaluations of work quality or progress rather than description of the task itself or what the students might get out of it; and (b) many of the rest included remarks such as the following:

Today's lesson is nothing new if you've been here.

If you get done by 10 o'clock, you can go outside.

Your scores will tell me whether we need to stay with multiplication for another week. If you are talking, I will deduct 10 points from your scores.

This penmanship assignment means that sometimes in life you just can't do what you want to do. The next time you have to do something you don't want to do, just think "Well, that's part of life."

Get your nose in the book, otherwise I'll give you a writing assignment.

You don't expect me to give you baby work every day, do you?

You've been working real hard today, so let's stop early.

You'll have to work real quietly, otherwise you'll have to do more assignments.

My talkers are going to get a third page to do during lunch.

We don't have a huge amount to do, but it will be time-consuming.

This test is to see who the really smart ones are.

Conclusions Regarding Socializing Student Motivation to Learn

Taken together, the theory and research reviewed above suggest that even though a theoretical consensus is developing concerning desirable features of student motivation to learn in classrooms, people are unlikely to see much of this desirable motivation developed until teachers are made aware of the need to stimulate such motivation to learn systematically when instructing and socializing their students, and are armed with strategies for doing so. Even assuming the development of effective strategies and teacher training methods, some powerful deterrents to success would have to be overcome: (a) most school activities are imposed requirements offering little opportunity for choice or autonomy, so that chances to take advantage of intrinsic motivation are minimal; (b) teachers must act as authority figures who control and sanction student behavior in addition to acting as helpful instructors, and resentments engendered in the process of enacting the authority figure role may sometimes undercut the effects of attempts to stimulate student motivation to learn; (c) teachers must assign grades, and students' concern about grades

may interfere with their ability to concentrate on the task at hand and try to get the intended academic benefits from it; and (d) because of the familiarity and predictability of schooling, both teachers and students may become so adjusted to "the daily grind" that they begin to focus mostly on what needs to be done without much attention to why it is being done or what benefits are supposed to be derived from it.

In contrast, there are some grounds for optimism. First, for reasons discussed in detail in Brophy (1983a) and alluded to briefly in this paper, few teachers have received much information about student motivation to learn or about possible strategies for socializing such motivation in their preservice or inservice training. Typically, the information offered to teachers about motivational strategies focuses on controlling performance rather than on stimulating motivation to learn and emphasizes the use of incentives, rewards, and grades rather than strategies designed to stimulate students to generate learning goals and the cognitive and metacognitive strategies needed to accomplish them. Thus, there is reason to believe that systematic emphasis on the latter strategies might have significant impact on teacher and student behavior.

Also, related teacher training efforts by others have achieved some success; deCharms (1976), for example, succeeded in causing both teachers and students to act more as origins and less as pawns in the classroom. More recently, Roehler, Duffy, and Meloth (in press) found that teachers could be trained to provide detailed explanations of content and to make sure they called their students' attention to the purposes of academic activities. They also found that the students of these trained teachers showed significant increases in awareness of the purposes of activities, and more generally, in metacognitive awareness of their own information processing and learning

progress when working on assignments. In the hope that teacher training in strategies for stimulating student motivation to learn would have similarly beneficial effects, Classroom Strategy Project staff of the Institute for Research on Teaching have planned an experimental study that is presently underway in junior high school social studies classes.

Teachers' Strategies for Socializing Student Motivation to Learn

To lay groundwork for the experiment, the project staff reviewed the literature (the ERIC system, *Dissertation Abstracts International*, *Psychological Abstracts*, and other books and articles in education and in developmental, social, personality, and industrial psychology), to identify concepts, principles, and research findings related to the topic of socializing student motivation to learn. For reasons described above, the most useful sources were those concerned specifically with motivation in the classroom, especially those that (a) suggested strategies for building student motivation (not just using it as a predictor of individual differences in performance), (b) took into account task value (not just performance expectations), and (c) addressed the problem of motivating students' learning (not just controlling their later performance). The most useful sources were general works on motivation intended for teachers (Kolesnik, 1978; Wlodkowski, 1978), works on teacher expectation effects and socialization of students (Brophy, 1983b; Good & Brophy, 1984, 1986; Dusek, Hall, & Meyer, 1985), works on intrinsic motivation (Deci, 1975; Lepper & Greene, 1978; Malone & Lepper, in press), a chapter by Keller (1983) on including motivation in instructional design, works on stimulating active information processing and generative learning strategies in students (Good & Brophy, 1986; McCombs, 1984; Weinstein & Mayer, in press), and various articles in industrial psychology dealing with factors that affect workers' attitudes toward their jobs.

When relevant sources were identified, the information they offered and its implications for teacher socialization of student motivation to learn were summarized and expressed in the form of principles or strategies to be recommended to teachers. Ideas from various sources that differed in terminology but advocated essentially the same principle or strategy were combined in order to eliminate redundancy and identify a comprehensive, yet manageably small, set of basic principles. These principles, along with rationales explaining how and why they should work and elaborations or qualifications that need to be kept in mind when attempting to apply them in the classroom, have been organized into a master list.

The most recent version of the list describes 40 strategies divided into five types: (a) task design and selection strategies that capitalize on students' existing intrinsic motivation by selecting or designing tasks the students already find enjoyable; (b) strategies that involve imposing task-exogenous contingencies (tying task engagement or performance to rewards or other incentives); (c) strategies designed to induce motivation to learn (through general modeling or communication of expectations or through specific stimulation of interest, curiosity, learning sets, or other aspects of high-quality task engagement); (d) strategies designed to induce desirable expectations concerning performance (by programming for success and helping students to recognize that they can succeed if they apply reasonable effort); and (e) strategies designed to induce active learning with metacognitive awareness (by teaching students how to use information-processing skills, learning-to-learn skills, and related skills for approaching academic activities with an active and systematic focus on learning). The project staff continue to revise the list, working to eliminate some redundancy that still exists, adding additional strategies, and expanding the material on qualifications and elaborations.

From the larger list, 24 strategies have been selected as the basis for teacher training in the experimental study. These include 13 strategies for socializing student motivation to learn and 11 strategies for capitalizing on existing intrinsic motivation to make academic activities enjoyable for the students. As described in the teacher's manual[3] being used in this research, these 24 strategies are as follows.

Assumptions and Preconditions

The following assumptions and preconditions underlie the effective use of the motivational strategies to be described. *The strategies cannot work effectively if these assumptions and preconditions are not in effect.*

Supportive Environment

Anxious or alienated students are unlikely to develop motivation to learn academic content. Nor is such motivation likely to develop in a chaotic classroom. Thus, I assume that (a) the teacher uses classroom organization and management skills that successfully establish the classroom as an effective learning environment and (b) the teacher is a patient, encouraging person who makes students feel comfortable during academic activities and supports their learning efforts. The classroom atmosphere is businesslike but relaxed and supportive. Students feel comfortable taking intellectual risks because they know they will not be embarrassed or criticized if they make a mistake.

Appropriate Level of Challenge/Difficulty

I assume that activities are of an appropriate difficulty level for the students. If the task is so familiar or easy that it constitutes nothing more

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[3]Pages 19-38 of this paper contain the strategies that are in the teacher's manual.

than busy work and, especially if the task is so unfamiliar or difficult that the students cannot succeed on it even if they apply reasonable effort, no strategies for inducing student motivation to learn are likely to succeed. *Tasks are of appropriate difficulty level when the students are clear enough about what to do and how to do it so that they can achieve high levels of success if they apply reasonable effort.* When students encounter such tasks routinely, they will *expect to succeed* at them and thus will be able to concentrate on learning the tasks without becoming anxious or worrying about failure.

The simplest way to ensure that students expect success is to make sure that they achieve it consistently. *Program your students for success* by beginning at their level, moving in small steps, and preparing them sufficiently for each new step so that they can adjust to it without much confusion or frustration.

Some students may need help in recognizing that they can succeed if they apply reasonable effort. Such students may not see the relationship between the degree of effort they put into their work and the degree of success they achieve. They may even believe that they lack the necessary knowledge or ability to succeed consistently and may attribute the success they do achieve to chance factors (lucky guessing, easy assignments, etc.). Such students need to be (a) reassured that they will be given work of appropriate difficulty level, (b) encouraged to attribute their successes to the combination of sufficient ability with reasonable effort, and (c) encouraged to attribute their failures to insufficient effort (if this is the case) or to confusion or reliance on inappropriate strategies (which can be overcome with additional teaching and practice).

Meaningful Learning Objectives

One cannot expect students to develop motivation to learn if activities are essentially pointless in the first place. Therefore, one assumes that activities have been selected with worthwhile academic objectives in mind; that is, they *teach some knowledge or skill that is worth learning*, either in its own right or as a step toward some larger objective. This would exclude the following activities: continued practice on skills already mastered thoroughly, memorizing lists for no particularly good reason, reading about something that is so foreign to one's experience or is described in such technical or abstract language that it is essentially meaningless, looking up and copying definitions of terms that are never used meaningfully in readings or assignments, and working on tasks assigned merely to fill time rather than to attain some worthwhile instructional objective.

You may end up violating this assumption frequently if you confine your instruction to what is stated in the text. Some passages in the text are so sketchy that, unless you elaborate the material for your students, they will have no alternative but to memorize names, dates, definitions, locations, and other facts without developing much real understanding of what they are reading about. For example, a lesson on how Russia became the U.S.S.R. states that "a revolt threatened," "the revolution came," "the republic formed," and "Lenin gave the people peace and food," but it never explains any of these things in concrete terms that the students can visualize and understand. They might memorize it and even learn to answer questions about it (Why did Russia exit the war? Answer: Because the revolution came.), and yet not really understand what they are talking about. Thus, when the text is this sketchy, your most effective motivational strategy probably will be to elaborate on the text and make it more *meaningful* to the students. Remember, if you want your students to learn with understanding instead of just memorizing, you will need

to elaborate on abstract or sketchy content. If the material is too abstract, supply analogies to more familiar content or examples of concrete instances. If the material is too sketchy, supply more details so that your students can develop visual images of what happened and an understanding of how and why it happened.

Moderation/Optimal Use

I assume that there is an optimal level for effective use of each motivational strategy. Strategies used too often or too routinely may lose their effectiveness, and any particular use of a strategy can become counterproductive if it goes on too long or gets carried to extremes.

Also, different activities will call for different numbers and kinds of motivational strategies. Where content is relatively unfamiliar and its value or meaningfulness to the students is not obvious, significant motivational effort involving several of the strategies described in this manual may be called for. In contrast, little or no special motivational effort may be needed when the task involves something that the students are already eager to learn.

Strategies for Inducing Motivation to Learn

If the foregoing assumptions and preconditions are in effect, the stage will be set for inducing student motivation to learn. The 13 strategies described in this section are those most directly involved in stimulating student motivation to learn (or in activating it where it already exists). Therefore, these are the strategies that should be used routinely each day. The first *3 general strategies* should be pervasive features of the learning environment that you establish, and one or more (preferably several) of *10 specific strategies* should be included when introducing and implementing each classroom activity and follow-up assignment. These are strategies for

orienting students toward learning the content or mastering the skills that a task offers.

1. General Modeling

Throughout all of your interactions with your students, routinely model interest in learning: Let the students see that you value learning as a rewarding, self-actualizing activity that produces personal satisfaction and enriches your life. Share your interests in current events and items of general knowledge, and most especially, in aspects of the subject matter that you teach. Call attention to current books, articles, television programs, or movies on the subject. Also, call attention to examples or applications of subject-matter knowledge in everyday living, in the local environment, or in current events.

By "modeling," I mean more than just calling students' attention to examples or applications of social studies concepts taught in school. I mean acting as a model--sharing your thinking about such examples or applications so that your students can see how educated people use information and concepts learned in school to understand and respond to everyday experiences in their lives and to news about current events elsewhere. Share your thoughts about these matters with your students: connections between concepts you have been studying and events in your lives or in the news, insights or opinions about current events, questions you are raising or predictions you are making about how some current crisis will be resolved. Let the students see how it is both stimulating and satisfying to understand (or even just to think or wonder about) what is happening in the world around us.

2. Communicate Desirable Expectations and Attributions

Throughout all of your interactions with students, routinely project attitudes, beliefs, expectations, and attributions (statements about the

reasons for students' behavior) that imply that your students share your own enthusiasm for learning. To the extent that you treat your students as if they already are eager learners, they will be more likely to become eager learners. Let them know that you expect them to be curious, to want to learn facts and understand principles clearly, to master skills, and to see their learning as meaningful and applicable to their everyday lives. At a minimum, this means avoiding suggestions that students will dislike working on academic activities or will work on them only to get good grades. Preferably, it also means treating students as active, motivated learners who care about their learning and are trying to understand.

3. Structure Activities as Learning Experiences, Not Tests

Make clear separations between instruction or practice activities and tests. Where instruction or practice activities include test-like items (recitation questions, practice exercises), treat these as opportunities for students to work with and apply the material rather than as opportunities for teachers to see who knows the material and who does not. If teachers expect students to engage in academic activities with motivation to learn (which implies a willingness to take risks and make mistakes), students will need to be protected from anxiety or premature concern about performance adequacy.

It is necessary, of course, to evaluate student performance and assign grades using tests or other assessment devices. Until that point in the unit, however, the emphasis should be on teaching and learning rather than on performance evaluation, and students should be encouraged to respond to questions and performance demands in terms of "Let's assess our progress and learn from our mistakes" rather than "Let's see who knows it and who doesn't." When possible, give students opportunities to correct their mistakes or improve their responses by rephrasing the question or giving a clue (i.e., don't just

give the answer or move on to someone else). If it is necessary to give the answer or elicit it from another student, be sure to include any explanation that may be needed to see that the first student "gets the point" and understands why the answer is correct. Have students correct their mistakes on seatwork and homework assignments as well. In general, encourage your students to treat each question and performance demand as an opportunity to check on their own understanding or apply what they are learning and not merely as an opportunity to gain or lose points toward their grades.

These first three strategies are general ones that should pervade all classroom activities and teacher-student interactions. They involve socializing students to understand that the classroom is primarily a place for learning and that acquiring and applying knowledge and skills are important contributors to quality of life. The remaining strategies involve more specific words and actions to be used in introducing and implementing classroom activities and assignments.

4. Teacher Enthusiasm

Unless they are already quite familiar with a topic or assignment, students will look to the teacher for cues about how to respond. Consciously or not, the teacher will be modeling attitudes and beliefs about the topic or assignment, and students will pick up on these cues. If teachers present topics or assignments with enthusiasm suggesting that they are interesting, important, or worthwhile, the students are likely to adopt this same attitude.

In calling for enthusiasm, I do not mean pep talks or unnecessary theatrics. Instead, I mean that teachers should identify their own reasons for being interested in the topic or finding it meaningful or important, and project these reasons to students. Use dramatics or forceful salesmanship if you are comfortable with these techniques and they fit your teaching style,

but if not, a low key but sincere statement of the value that you place on the topic or activity will do just as well. Remember, the primary objective of teacher enthusiasm as a strategy for motivating students to learn is not to amuse, entertain, or excite the students but to induce them to value the topic or activity.

5. Induce Task Interest or Appreciation

When introducing a task or activity, induce the students to value it by sharing your perceptions about how interesting or informative it is or how important the skills that it teaches are. Mention applications of the knowledge or skills to everyday living, especially applications that will allow students to solve problems or accomplish goals that are important to them. Mention new or challenging aspects that the students can anticipate, especially interesting or exotic ones.

6. Induce Curiosity or Suspense

Stimulate curiosity or suspense by posing questions or doing "set ups" that make the students feel the need to resolve some ambiguity or obtain more information about the topic. Ask them to speculate or make predictions about what they will be learning. Raise questions that successful completion of the activity will enable them to answer. Where relevant, show them that their existing knowledge is not complete enough to enable them to accomplish some valued objective, that their knowledge is internally inconsistent or inconsistent with certain new information, or that the knowledge they presently possess in scattered form can be organized around certain general principles or powerful ideas. In general, put the students into an active information-processing or problem-solving mode by posing interesting questions or problems that the activity will address.

7. Make Abstract Content More Personal, Concrete, or Familiar

Definitions, principles, and other general or abstract input may have little meaning for students unless made more concrete and specific. Promote personal identification with the content by relating experiences or telling anecdotes illustrating how the content applies to the lives of particular individuals (especially individuals whom the students are interested in and are likely to identify with). Make abstractions concrete by showing objects or pictures and by conducting demonstrations. Help students relate new or strange content to their existing knowledge by using examples or analogies referring to familiar concepts, objects, or events.

Sometimes the problem is not that the content is too abstract or unfamiliar for students to understand if it were explained sufficiently but that there just is not enough explanation. For example, it is not enough to say that Russia exited World War I because "the revolution came and a new government took over." This brief statement does not supply enough details to enable students to visualize and understand the events surrounding the Russian revolution. To make the material understandable to your students, you would have to elaborate on it by explaining why and (especially) how the Communists and others organized political and eventually military resistance to the Czar's regime, killed or expelled the Czar's family and key officials, and established a new government. With the benefit of such elaboration, the statement that "the revolution came and a new government was established" is transformed from a relatively meaningless statement that can only be memorized into a meaningful statement that students can explain in their own words because they can relate it to their prior knowledge and can visualize the events to which it refers.

8. Induce Dissonance or Cognitive Conflict

In the case of familiar topics about which students may tend to think they already know everything there is to know, counter this tendency by pointing out unexpected, incongruous, or paradoxical aspects. Call attention to unusual or exotic elements of the content to be learned, note exceptions to general rules, or challenge the students to solve the "mystery" that underlies a paradox. Get the students to ask themselves "How can that be?" about strange but true phenomena.

9. Induce the Students to Generate their Own Motivation to Learn

Besides stimulating motivation to learn in the students by using other strategies, it is possible to induce students to generate such motivation to learn for themselves. Ask them to think about the topic in relation to their own interests and preconceptions. Ask them to identify questions they would like to get answered, to list their particular interests in the topic, or to note things they find to be surprising. Besides generating motivation to learn for particular topics, such exercises are useful for helping students to understand that motivation to learn must come from within themselves--that it is a property of the learner rather than the task to be learned.

10. State Learning Objectives and Provide Advance Organizers

When introducing a task, call the students' attention to the nature of the task and the academic benefits they should receive from engaging in it. This will help them to establish a learning set to guide their response to the task. In order to be concrete and specific and to provide the students with guidelines for goal setting and self-assessment, phrase objectives in terms of what the students should be able to do when they complete the task successfully rather than merely describing what the task is about in general terms.

Statements of learning objectives are especially important for skill development tasks (in contrast to knowledge development tasks).

11. Provide Informative Feedback

Give students feedback about their progress in understanding content or mastering skills. Where such feedback does not occur automatically in the process of engaging in a task, supply it by monitoring and correcting performance, providing answer keys, allowing students to give feedback to one another, or some other method.

Ideally, feedback should occur during or as soon as possible following the performance, so that students do not develop and "practice" erroneous concepts or strategies. Feedback should be clear, specific, and constructive. It should include recognition of progress made or partial successes achieved, and should be presented in ways that encourage and provide guidance for continued learning efforts.

If difficulties are attributed to causes, such difficulties should be attributed not to lack of sufficient ability on the part of the student but to lack of effort (if this is clearly the case) or (more likely) to confusion about what to do or reliance on an ineffective strategy for doing it. Most such feedback should be private rather than public and focused on learning what is being taught rather than on the student as a person.

12. Model Task-Related Thinking and Problem Solving

The information-processing and problem-solving strategies that you use when thinking about curricular content and responding to academic tasks will be invisible to your students unless you make them overt and observable by modeling them. Therefore, when teaching particular content, and especially when demonstrating skills or problem solving strategies, don't just tell the students what to do using the typical second- or third-person language of

instruction. In addition, model the process by showing the students what to do and thinking aloud as you demonstrate. Include the thinking that goes into selecting the general approach to use, deciding on options to take at choice points, checking progress as you go along, and satisfying yourself that you are on the right track. Model recovery from false starts and from use of inappropriate strategies on occasion as well, so that students can see how one can develop a successful strategy even when one is not sure about what to do at first.

This kind of cognitive modeling (thinking aloud so that students can observe one's information-processing and problem-solving strategies) is powerful not only as an instructional device but as a way to socialize student motivation to learn. In addition to modeling the particular strategies needed for the task at hand, it is a way to show students what it means to approach a task with motivation to learn and to model some of the general beliefs and attitudes associated with such motivation (patience, confidence, persistence in seeking solutions through information processing and rational decision making, benefiting from the information supplied by mistakes rather than simply giving up).

13. Induce Metacognitive Awareness of Learning Efforts

When opportunities arise, train your students to be aware of their goals during task engagement, to monitor the strategies they use in pursuing these goals, to note the effects of these strategies as they are used, and to monitor their own responses to these events as they unfold. In particular, train the students to respond to errors as cues for analysis and concentrated efforts, rather than as cues for becoming frustrated and giving up.

When motivated to learn, students do not merely let input "wash over them" and hope that some of it will stick. Instead, they process the input

actively by concentrating their attention, making sure that they understand, integrating new information with existing knowledge, and encoding and storing this information in a form that will allow them to remember and use it later. The mere intention to learn in this fashion is not sufficient to ensure such learning. In addition, students must possess and use cognitive and metacognitive skills for learning and studying effectively. Some of these are specific to particular subject matter or types of task, but some are general strategies that students will find useful for almost any kind of learning or studying.

a. Actively preparing to learn. Teach your students to prepare to learn actively by mobilizing their resources and approaching tasks in thoughtful ways: getting mentally prepared to concentrate on the task, previewing reading or listening tasks by noting their nature and objective, and developing a plan before trying to respond to complex performance tasks.

b. Committing material to memory. Teach your students to use memory supports: repeating, copying, or underlining key words; making notes; and using imagery or other mnemonic strategies.

c. Encoding or elaborating on the information presented. Usually it will not be appropriate (or even possible) to rely on rote memory to retain information verbatim, so students will need to be taught strategies for learning the gist of the material: paraphrasing and summarizing information to put it into their own words, relating it to what they already know, and assessing their understanding by asking themselves questions about the material to see if they can answer them knowledgeably.

d. Organizing and structuring the content. It is helpful to identify or impose organizational schemes that structure the content by dividing it into sequences or superordinate-subordinate clusters: noting the main ideas of paragraphs; outlining the material; and noting whole-part, rule-example, question-answer, and generalization-elaboration structures. Help your

students to see that they can use these structural elements as bases for organizing and remembering what they learn.

e. Monitoring comprehension. Teach your students to remain aware of the instructional objectives, the strategies they are using to pursue them, the relative success of those strategies, and the remediation efforts they undertake if the strategies have not been effective. Teach strategies for coping with confusion and errors: backing up and rereading, looking up definitions, identifying previous places in the text where the confusing point is discussed, searching the recent progression of topics for clues to the information that has been missed or misunderstood, retracing steps to see if the strategy has been applied correctly, and generating possible alternative strategies.

f. Maintaining appropriate affect. Model and instruct students in ways of approaching academic activities with desirable affect (relaxed but alert and prepared to concentrate, ready to enjoy or at least take satisfaction from engaging in the task) rather than undesirable affect (anger, anxiety, etc.). Model self-reinforcement for success and coping skills for responding to frustration and failure (reassuring self-talk, refocusing attention on the task at hand, and using the strategies listed at the end of the previous paragraph).

Task Design and Selection Strategies

We noted previously that motivation to learn resides in the student rather than in the task to be learned and that it should be possible to stimulate students to be motivated to learn any worthwhile task, whether or not they find the task enjoyable. It is for these reasons that we have differentiated motivation to learn a task from liking for the task and have identified the 13 strategies described above as those involved most directly in socializing students' motivation to learn.

Nevertheless, given tasks that are equally appropriate from a curriculum and instruction point of view, we prefer that students work on tasks that they find interesting and enjoyable rather than those they find boring or irritating. This is the goal of the strategies in this section. These strategies involve capitalizing on students' existing intrinsic motivation by selecting or designing tasks they will find attractive or enjoyable. Although these strategies will not directly stimulate student motivation to learn, they should produce heightened task engagement sustained by the fact that students enjoy the actual processes involved in doing the task.

14. Adapt Tasks to Students' Interests

Whenever a variety of activities could be used to accomplish particular curriculum objectives, take advantage of students' existing interests by designing or selecting activities that match those interests--activities that students enjoy or that deal with topics they find interesting or important. Task enjoyment also will be affected by strategies 15-24.

15. Choice

Within the constraints imposed by your instructional objectives, offer your students choices of alternative tasks or alternative ways to meet requirements. If the students might make undesirable choices if left completely on their own, provide them with a menu of choices to select from or require them to get your approval of their choice before going ahead with it.

16. Novelty/Variety

Students faced with the same routine and the same type of task each day will soon become bored. Therefore, try to be sure that something about each task (its form, its content, the media involved, or the nature of the responses it demands) is new to the students or at least different from what

they have been working on recently. Remember, a steady diet of routine and predictable lessons followed by routine and predictable assignments soon becomes "the daily grind."

17. Autonomy

Although sometimes "there is only one right way" to do a task, most tasks can be designed to allow for some autonomous decision making and creativity by students. Most students feel unduly pressured if they perceive that every move they make is being prescribed and monitored by the teacher. In contrast, they are likely to experience heightened intrinsic motivation and commitment to the task when they perceive that they will have opportunities to exercise autonomy and creativity in deciding how to organize their time and effort in order to meet task requirements.

18. Activity/Manipulation Opportunities

Students tend to prefer activities that allow them to interact with the teacher or with one another, to manipulate materials or to respond actively in some other way rather than merely to listen or read. Ideally, these opportunities will often go beyond the simple question-answer formats seen in typical recitation and seatwork activities so as to include projects, experiments, discussions, role-play simulation, and creative applications.

Even within traditional recitation and discussion formats, teachers can create more active student involvement by going beyond factual questions to stimulate students to discuss or debate issues, offer opinions about cause-and-effect relationships, speculate about hypothetical situations, or think creatively about problems. In this way, students are led to think actively about the content instead of just memorizing facts and concepts.

19. Feedback Features

Students tend to enjoy tasks in which they can make responses and get immediate feedback better than they enjoy tasks not allowing active response or those allowing active response but not providing immediate feedback that can be used to guide subsequent responses. Therefore, tasks designed to allow students to make active responses that will trigger immediate feedback are especially desirable.

So-called self-correcting materials have such feedback features built in. Teachers can build them into more typical classroom activities by leading the group in going through the task, circulating to provide feedback during independent seatwork times, or arranging for students to get feedback from answer keys or from discussing the work with one another. Also, teachers can break up otherwise lengthy lectures or presentations by interspersing recitation and discussion activities or follow-up assignments that allow students to make responses and get feedback.

20. Creation of Finished Products

Industrial workers enjoy jobs allowing them to create a product that they can point to and identify with more than jobs not resulting in finished products that provide tangible evidence of the fruits of their labor. Students are likely to respond similarly to academic tasks; that is, they are likely to prefer tasks that have meaning or integrity in their own right over those that are mere subparts of some larger entity. They are also likely to experience a satisfying sense of completion or accomplishment when they finish such tasks. Ideally, task completion will yield a finished product that the student can use or display.

21. Fantasy/Simulation Features

Where more direct application is not feasible, teachers can introduce fantasy or imagination elements that will engage students' emotions or allow them to experience events vicariously. Or, they can set up role-play or simulation activities that allow students to identify the various characters or to deal with the content in direct, personalized ways. Ideally, such fantasy/simulation activities will confront students with problems they need to solve by drawing on the knowledge and skills they have been learning.

Simulation exercises include, but are not confined to, full-scale drama, role-play, simulation games, or other "major productions." Other simulation activities are more modest and can be incorporated into more typical everyday instruction. These include brief simulation exercises or invitations for students to bring fantasy or imagination to bear in thinking about the content. In lessons on the U.S.S.R., for example, while leading the group in reading through and discussing the text, you might ask the students to imagine and talk about what it would be like to seek housing in a country where the government owned all of the property or to get accurate information about current world events in a country where all of the media are controlled by the government. These brief fantasy/simulation exercises do not take much time or require special preparations, but they can be quite useful in stimulating your students to relate to the content more personally and to take a greater interest in it.

22. Game-like Features

Practice and application activities for almost any kind of content can be presented as games or structured to include features typically associated with games or recreational pastimes: "test-yourself" challenges; puzzles and other problem-solving activities; and the like. Some such activities involve clear

goals but require the student to solve problems, avoid traps, or overcome obstacles in order to reach these goals. Others challenge students to "find the problem" (i.e., to identify the goal itself, in addition to developing a method of reaching the goal). Others involve elements of suspense or hidden information that emerges as the activity is completed (puzzles that convey some message or provide the answer to some question once they are filled in). Still others involve a degree of randomness or some other method of inducing uncertainty about what the outcome of one's performance is likely to be on any given trial. Ideally, such game-like elements will complement, and not detract from, the academic benefits of the activity.

23. Higher Level Objectives/Divergent Questions

It is important that students learn basic social studies facts, concepts, and definitions. However, a steady diet of activities that concentrate on these lower level knowledge and comprehension objectives soon becomes boring for most students. Therefore, there should be frequent activities or parts of activities devoted to higher level objectives (application, analysis, synthesis, or evaluation). Also, in addition to convergent questions designed to elicit a particular correct answer, there should be questions designed to elicit opinions, predictions, suggested courses of action or problem solutions, or other divergent thinking. Such questions and activities allow students to respond more actively and creatively to the content than do activities built around convergent questions about facts, definitions, or concepts.

Exposure to higher level objectives/divergent questions also helps make the material more meaningful and understandable to the students. If they are only exposed to facts without much explanation or integration and if questions and assignments only require them to regurgitate these facts, students won't have much opportunity (let alone motivation) to make sense of the material by

processing it actively, putting it into their own words, and relating it to their prior knowledge and experience. Therefore, this strategy is especially useful when the text provides only vague or sketchy coverage of the topic and orients the students more toward rote memorizing than toward learning with understanding.

24. Opportunities to Interact with Peers

Many students particularly enjoy activities that allow them to interact with peers. Teachers can build peer interaction into whole-class activities such as discussions, debates, role-play, or simulation. Peer-oriented students are likely to find such activities more enjoyable than whole-class activities that allow them to interact only with the teacher. In addition, however, teachers can include activities that allow students to work together in pairs or small groups to tutor one another, discuss issues, develop suggested solutions to problems, or work as a team participating in simulation games or producing some group product (a report, display, etc.).

In addition to being more enjoyable because of the social aspect, such peer interactive activities may carry useful instructional and motivational benefits if the following conditions are met: (a) the activities are sufficiently structured around academic objectives to make them worthwhile learning experiences and not merely occasions for socializing and (b) conditions are arranged so that everyone participates actively and has a substantive role to play in carrying out the group's activity (rather than having one or two students dominate the interaction or do all the work while others just watch).

Design of the Experimental Study

Researchers are monitoring seventh- and eighth-grade social studies teachers trained in these motivational strategies as they instruct an

experimental section and a control section of the same course to comparable students. The teachers address the same content using the same methods and materials and the same schedule of lessons, assignments, and tests in the two class sections, except for extra or different elements introduced into the experimental sections as applications of these motivational principles.

Although the teachers are provided with additional articles and chapters that provide background information and elaborate on some of the principles, their training (during 6-8 hour workshops) focuses on discussion and elaboration of the principles and planning guidelines presented in the manual. Control sections are taught as they would have been taught anyway, but plans for the experimental section are adjusted to introduce different or extra elements likely to enhance student motivation to learn in that section. The basic rule of thumb is to introduce into the plans at least one thing that is different or extra for the experimental section each day. It is left up to the individual teachers to decide which of the principles are most appropriate for implementing in their classes, although all teachers are urged to place primary emphasis on principles 1-13 dealing directly with student motivation to learn and only secondary emphasis on principles 14-24 dealing with intrinsic motivation.

Treatment implementation will be monitored in two ways. First, teachers will keep brief records of their plans for differentiating instruction between the two class sections each day, and project staff will code these records for the nature and extent of special instructional elements planned for the experimental sections. Also, observers will visit both the experimental and the control sections 1-2 times per week and observe each teacher that day and take detailed descriptive notes of what occurred in each section and later write comparative notes describing the similarities and differences observed.

Project staff will assess experimental effects on motivation through class attendance and tardiness data and changes in students' responses to a motivational questionnaire administered early and again later in the semester. The effects on achievement will be assessed by comparing each teacher's two sections' performance on tests and assignments. Project staff will prepare a report describing the degree to which the principles were implemented in these classrooms and the effects of such implementation on student motivation and achievement. In addition, the teachers' planning records and the observers' classroom descriptions will be analyzed to identify additional motivational principles, additional qualifications or elaborations on principles already identified, and good examples (at least for junior high school social studies instruction) of specific applications of these principles.

Because the study is presently in progress, findings cannot yet be reported. However, two observations gleaned from interactions with the teachers during the training workshops and visits to classes held early in the semester are worth noting here. First, there is great variation in the degree to which teachers already were implementing these principles before they became involved in our study. Some teachers routinely present relatively dull and predictable lessons and assignments that soon become "the daily grind," but others teach the same subject matter to similar students in much more varied and interesting ways that incorporate most of the strategies included in our training manual. In over 15 years of experience conducting research in the elementary grades, I have rarely encountered the excellent instruction (at least, from the perspective of student motivation to learn) that is observed routinely in several of these junior high social studies classes. This is probably due at least in part to the richer subject matter knowledge and disciplinary training received by secondary teachers as

subject-matter specialists, although differences in the cognitive sophistication of the students and in the nature of the curriculum undoubtedly are also relevant. The larger point here is that, as research on secondary instruction begins to accumulate, we may have to make more and more qualifications on our notions of classrooms, teachers, and schooling that have been developed from research done almost exclusively at the elementary grade levels.

The second observation is that student motivation is intimately linked with curriculum and instruction, so that the content to be learned will affect the degree to which students can reasonably be expected to generate and follow through on motivation to learn as defined in this paper. Inspection of the textbooks used in the social studies classes under observation suggests that certain passages, and sometimes even substantial portions of lessons, are so vague or sketchy as to preclude learning with genuine comprehension, thus leaving the student with no choice but to attempt to memorize a few names, dates, definitions, or isolated facts. In these situations, making the material more *meaningful* to the students by providing more information or supplying analogies, examples, or anecdotes that make the content more concrete and visualizable is fundamental to stimulating their motivation to learn, even more so than using strategies such as trying to stimulate curiosity or develop appreciation for the importance of the content. As one of the teachers noted, a skillful teacher thinks of the text as an outline to be filled in rather than as a complete and self-contained curriculum.

Conclusion

The experiment described above will provide information about the effectiveness of this particular set of principles for teachers who want to stimulate student motivation to learn by socializing their students in the

classroom. Whatever its outcomes, however, the experiment will be just one element in what ultimately must become a much larger body of work on motivation in the classroom. In order to complement the work that is already available, additional studies are needed that have the following characteristics.

First, such research will focus on student motivation under typical classroom conditions. In defining and measuring such motivation, it will focus on quality of engagement in academic activities, recognizing that the choices available to students do not concern self-determination of what to do so much as whether or not to commit themselves and try to make the best of externally imposed activities that must be done at some level in any case.

Second, such research will complement the large volume of work on success expectations by focusing on the value that students place on a task because of the benefits they expect to derive from engaging in it or from accomplishing its objective. Similarly, in addition to considering the setting of performance goals and the attribution of performance level (success or failure in reaching those goals) to causes, such research will consider students' specification of learning goals and attributional thinking about why they are engaged in academic activities in the first place (Why am I engaging in this activity, and what am I supposed to get out of it?).

Third, given the heavy cognitive component in most school learning activities, such research will focus on motivating original learning (not just later performance), and on the more cognitive, strategy-generation aspects of effort (not just the affective, task-liking-or-persistence aspects).

Finally, such research will consider student motivation to learn as a dependent variable to be manipulated rather than merely as a correlate or predictor variable and will be designed to identify strategies that teachers can use to stimulate such motivation to learn in particular situations and to socialize its development as a more general trait in their students.

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